



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/662,392	09/14/2000	Raymond P. Mariella JR.	IL-10560	1299

7590

07/02/2002

Eddie E Scott
Patent Attorney
Lawrence Livermore National Laboratory
PO Box 808 L 703
Livermore, CA 94551

EXAMINER

CONLEY, SEAN E

ART UNIT

PAPER NUMBER

1744

DATE MAILED: 07/02/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

MF=10

Office Action Summary

Application No.

09/662,392

Applicant(s)

MARIELLA, RAYMOND P.

Examiner

Sean E Conley

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2002 and 10 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7. 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendments filed March 13, 2002 and April 5, 2002 have been received and considered for examination. Claims 1-18 are pending in the application and claims 2, 3, 5, 6, 12, 13, and 15 have been amended. In response to the amendment filed March 13, 2002 the rejections of claims 2, 3, 5, 6, 12, 13, and 15 under U.S.C. 112, second paragraph have been withdrawn.

2. The Declaration filed on March 13, 2002 under 37 CFR 1.131 is sufficient to overcome the Berry (U.S. Pat. 6,293,861) reference.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 7, 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Mascolo et al. (U.S. Pat. 5,078,046).

Mascolo et al. discloses an air treatment apparatus for cleaning the air in a forced air circulation system which are normally found in cars, houses or buildings (see column 1, lines 1-16). The system, which runs automatically, comprises various inputs

Art Unit: 1744

such as a smoke presence detector and an odor presence detector. In response to the detection of the smoke or odors present in the air stream, the control system will become energized and a treatment liquid is supplied to the moving air stream in order to remove the detected chemicals. The treatment liquid can be chemicals for air cleaning such as fungicides or germicides, or the like (see column 2, lines 5-40 and column 6, lines 39-45).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 2, 3, 5, 6, 8, 12, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moscolo et al. in view of Groger et al. (U.S. Pat. 5,766,956).

Mascolo et al. discloses an air treatment apparatus for cleaning the air in a

Art Unit: 1744

forced air circulation system which are normally found in cars, houses or buildings (see column 1, lines 1-16). The system, which runs automatically, comprises various inputs such as a smoke presence detector and an odor presence detector. In response to the detection of the smoke or odors present in the air stream, the control system will become energized and a treatment liquid is supplied to the moving air stream in order to remove the detected chemicals. The treatment liquid can be chemicals for air cleaning such as fungicides or germicides, or the like (see column 2, lines 5-40 and column 6, lines 39-45). It would have been obvious to one of ordinary skill in the art to include the step of stopping the circulation of the air if the treatment system shuts down because treated air would no longer be circulating throughout the system. However, Moscolo et al. do not teach specifically using antibody based immunoassays or nucleic-acid based assays for the detection of pathogens.

Groger et al. discloses in column 1, lines 8-62, that existing biosensors are based on antibody-antigen and nucleic acid-analyte methods. These biosensors are used to detect micro-organisms and toxins considered for use in biological warfare by terrorists.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the sensing means of Moscolo et al. with biosensors based on antibody-antigen and nucleic acid-analyte methods taught by Groger et al. for the purpose of detecting and treating biological or chemical toxins present in the air contained inside a building.

Art Unit: 1744

8. Claim 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mascolo et al. as applied to claims 1 and 11 above and further in view of Anbar.

Mascolo et al. does not teach specifically using mass spectrometric-based assays for the detection of pathogens.

Anbar discloses that a mass spectrometric-based assay is used when determining the amount of bound antigen-antibodies which can be used to identify and detect the type of chemical agent and amount present in the air being treated.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the sensing means of the invention to Mascolo et al. with mass spectrometric-based assays as taught by Anbar for the purpose of detecting and treating biological or chemical toxins present in the air contained inside a building.

9. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mascolo et al. as applied to claim 11 and further in view of Condit et al. (U.S. Pat. 5,938,823).

Mascolo et al. does not teach using an electrostatic precipitator to treat the air.

Condit et al. discloses an air cleansing apparatus which includes an electrostatic precipitator for treating the air. The electrostatic precipitator traps contaminants as the air passes through the device (see columns 1 and 2). Condit et al. does not teach a means to detect and identify the contaminants in the air and is only focused on treating the air.

Art Unit: 1744

It would have been obvious to one of ordinary skill in the art at the time the invention was made to change the invention of Mascolo et al. and add an electrostatic precipitator in addition to the aerosol spray and filter treatment for the purpose of increasing the cleaning effect on the air by using an additional treatment means.

10. Claims 2-5 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moscolo et al. in view of the publication "Autonomous System for Pathogen Detection and Identification" to Belgrader et al.

Mascolo et al. discloses an air treatment apparatus for cleaning the air in a forced air circulation system which are normally found in cars, houses or buildings (see column 1, lines 1-16). The system, which runs automatically, comprises various inputs such as a smoke presence detector and an odor presence detector. In response to the detection of the smoke or odors present in the air stream, the control system will become energized and a treatment liquid is supplied to the moving air stream in order to remove the detected chemicals (see column 2, lines 5-40 and column 6, lines 39-45). It would have been obvious to one of ordinary skill in the art to include the step of stopping the circulation of the air if the treatment system shuts down because treated air would no longer be circulating throughout the system. However, Moscolo et al. do not teach specifically using antibody based immunoassays, nucleic-acid based assays, or mass spectrometric assays for the detection of pathogens.

Belgrader et al. disclose an autonomous device for detecting, identifying, and quantifying biological warfare agents present in the air using assays. The device can

Art Unit: 1744

use polymerase chain reaction (PCR) for nucleic acid based assays as well as mass spectrometric-based assays and antibody based assays for the means of detecting and identifying the pathogens present inside the air. However, the publication does not teach the step of treating the unwanted agents once they have been detected and identified.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mascolo et al. and replace the sensing means (smoke and odor detectors) with the means of Belgrade et al. (assay detection and identification device) if one wanted to detect, identify and treat biological warfare agents and chemicals present in the air system inside a building occupied by people.

Response to Amendment

11. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Conley, whose telephone number is (703) 305-2430. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Robert Warden, can be reached at (703) 308-2920. The Unofficial fax

Art Unit: 1744

phone number for this group is (703) 305-7719. The Official fax phone number for this Group is (703) 872-9310.

When filing a FAX in Technology Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite the processing of your papers.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [robert.warden@uspto.gov]. All Internet e-mail communications will be made of record in the application file. PTO employees will not communicate with applicant via internet e-mail where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is of record express waiver of the confidentiality requirements under 35 U.S.C. 122 by the applicant. See the Interim Internet Usage Policy published by the Patent and Trademark Office Official Gazette on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist, whose telephone number is (703) 308-0661.

SEC

June 28, 2002



ROBERT J. WARDEN, SR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700